**The Biology and Plight of the Leatherback (1)**

1. What is a reptile?

2. What characteristics do all sea turtles have in common?

3. How did the Leatherback get its name?

4. List three biological characteristics that are believed to help the Leatherback cut through water more effectively aiding in its migratory lifestyle?

5. What does the Leatherback turtle's main diet consist of?

6. How do leatherbacks maintain their body temperature in cold water during deep dives?

7. What does pelagic mean and how are they adapted for this lifestyle?

**Life-Cycle and Worldwide Distribution (2)**

1. What are some environmental factors that may trigger the onset of courtship and mating behaviors?

2. Why does the caruncle of a hatchling degenerate as the turtle matures?

3. What type of beach is the Leatherback most likely to choose to nest on? And, how is this type of beach beneficial?

4. List the four stages of the Leatherback's life cycle and briefly summarize what events occur in each.

5. Why are females seen reemerging on beaches, but not males?

6. According to the map, where are the majority of 'major nesting sites' located?

7. Summarize the range of the Leatherback.

8. Can the Leatherback be found migrating off the coast of the United States? Does it nest off the coast of the United States?

**Building a Nest and Laying Eggs (3)**

1. What are some advantages to having the eggs covered by sand?

2. What hypotheses have been suggested to explain why the Leatherback turtle lays roughly 30 smaller 'yolkless' unfertilized eggs over top of the fertilized eggs?

3. What is meant by 'gender variability'?

4. What key abiotic (non-living) factor has been found to play a key role in determining Leatherback gender variability?

5. Why do Leatherbacks typically nest above the high tide line?

**The Effects of Nest Temperature on Gender Variability (4)**

1. On approximately what days does the gender determination occur?

2. Again, what abiotic factor plays a key role in gender determination?

3. What environmental beach factors can you hypothesize play a key role in determining the incubation temperature of a Leatherback nest? Think hard, and give at least two factors. Example: shade.

4. Between what temperature(s) will eggs be cued to become male (in F)? Then, give this range in Celsius by using the equation to convert Fahrenheit to Celsius, C=(5/9)(F - 32)

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5. Between what temperature(s) will eggs be cued to become female (in F)? Then, give this range in Celsius by using the equation to convert Fahrenheit to Celsius, C=(5/9)(F - 32).

6. At what temperatures is there a mixture of both male and female eggs (in F)? Then, give this range in Celsius by using the equation to convert Fahrenheit to Celsius, C=(5/9)(F - 32).

7. What do you reason happens to embryos that are incubated at temperatures above 95°F (35°C) or 77°F (25°C)?

**Environmental Beach Factors that Determine Incubation Temperature (5)**

1. Restate the temperatures in which male turtles are cued to develop, females turtles are cued to develop, and both male and female turtles develop.

2. Which is the nest with the highest temperature? Why?

3. Which is the nest with the coolest temperature? Why?

4. According to each nest's description, what are some possible problems with each nesting site?

5. Summate, in general terms, the environmental beach factors that play a key role in determining turtle nest incubation temperature, and therefore gender variability.

**Causes of Endangerment (6)**

1. Of the six Costa Rican predators mentioned in the pop-ups, which one(s) eat the turtle eggs for food?

2. When would it be most advantageous for turtle hatchlings to leave their nest?

3. What kind of solutions would you implement in order to protect the nests from these predators?

4. Can you think of any other threats that may affect the turtle nests?

5. Although most countries do not allow the collection and selling of turtle eggs, name one possible reason why the eggs are still being taken from their nests?

6. Why is artificial lighting a problem for turtle hatchings?

7. What are two ways in which beach nourishment negatively affect nesting sites of turtles that come ashore to lay their eggs?